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09/138,578	08/24/1998	TAKESHI KAMEDA	0033-0599P	4264

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EXAMINER

KUMAR, PANKAJ

ART UNIT PAPER NUMBER

2631

DATE MAILED: 06/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/138,578

Applicant(s)

KAMEDA ET AL.

Examiner

Pankaj Kumar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments with respect to claims 1-9 have been considered but are moot in view of the new ground(s) of rejection.

### *Response to Amendment*

#### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1 (and thus 2 to 9) are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

4. A broad range or limitation together with a narrow range or limitation that falls within the broad range or limitation (in the same claim) is considered indefinite, since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired. Note the explanation given by the Board of Patent Appeals and Interferences in *Ex parte Wu*, 10 USPQ2d 2031, 2033 (Bd. Pat. App. & Inter. 1989), as to where broad language is followed by "such as" and then narrow language. The Board stated that this can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) merely exemplary of the remainder of the claim, and therefore not required, or (b) a required feature of the claims. Note also, for example, the decisions of *Ex parte Steigewald*, 131 USPQ 74 (Bd. App. 1961); *Ex parte Hall*, 83 USPQ 38 (Bd. App. 1948); and *Ex parte Hasche*, 86 USPQ 481

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(Bd. App. 1949). In the present instance, claim 1 recites the broad recitation “data transmitted from a preceding stage or data output from an external synchronous system”, and the claim also recites “data output from said synchronous system and the data transmitted in the asynchronous system from said preceding stage” which is the narrower statement of the range/limitation. It is a narrower limitation since the broad limitation includes the word ‘or’ while the narrower limitation does not. Also, in the broad limitation, the preceding stage can be asynchronous or synchronous while in the narrow limitation, the preceding stage can only be asynchronous.

5. Claim 1 still is grammatically incorrect. For example, the following phrase has grammatical problems “A data transmission line used continuously connected in a plurality of stages ...”. Maybe it should have commas and hence say ‘A data transmission line, used continuously, connected in a plurality of stages ...’

6. Claim 1 has “the data” and “said data” but it lacks antecedent basis since it is indefinite whether the data is referring to “data transmitted from a preceding stage” or “data output from an external synchronous system”.

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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8. Claims 1, 2, 3, and 7 rejected under 35 U.S.C. 102(e) as being anticipated by Szczebak Jr. et al. 5,640,433.

9. As per claim 1, Szczebak teaches a data transmission line used connected continuously in a plurality of stages in an asynchronous system, comprising: a data holding unit receiving and holding data transmitted from a preceding stage or data output from an external synchronous system (Szczebak figs. 14, 15), and outputting and transmitting the data to a succeeding stage (Szczebak figs. 14, 15); a transfer control unit for controlling input and output of said data at said data holding unit (Szczebak figs. 14, 15); and an adjustment unit for adjusting timing of input of the data output from said synchronous system (Szczebak adjusts timing of data output from synchronous system; fig. 15c: 872 has data and clock and 916 and 930 shift data which adjusts the timing of the data; fig. 14: 116 converts data from synchronous to asynchronous and thus inherently adjusts timing) and the data transmitted in the asynchronous system (Szczebak adjusts timing of data transmitted in the asynchronous system; fig. 15; fig. 14: 116 converts data from asynchronous to synchronous and thus inherently adjusts timing) from said preceding stage to said data holding unit (Szczebak has data transmitted in the asynchronous system from the preceding stage to the data holding unit; fig. 15d: 910 writes data to async transmit register from the preceding DDS receive buffer stage), when a mode in which data output from said synchronous system is taken and transmitted to said data transmission line (Szczebak figs. 14, 15: synchronous data is being output).

10. As per claim 2, the data transmission line according to claim 1, further comprising buffer means controlled by said synchronous system, said buffer means provided between said

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synchronous system and said data holding unit, receiving and temporarily holding output data of said synchronous system and outputting the data to said data holding unit (Szczebak figs. 14, 15).

11. As per claim 3, the data transmission line according to claim 2, wherein said mode designation is canceled in response to completion of data input to said data holding unit (Szczebak figs. 14, 15: interrupts, flags, pointers, setting and clearing clocks, decisions, etc. based on data, buffers, etc.).

12. As per claim 7, the data transmission line according to claim 1, wherein said mode designation is canceled in response to completion of input to said data holding unit (Szczebak figs. 14, 15: interrupts, flags, pointers, setting and clearing clocks, decisions, etc. based on data, buffers, etc.).

***Allowable Subject Matter***

13. Claims 4, 5, 6, 8, and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter: The art of record does not suggest the respective claim combinations together and nor would the respective claim combinations be obvious with the underlined portions:

15. As per claim 4, the data transmission line according to claim 3, wherein said transfer control unit includes, in order to transfer a first pulse applied from said preceding stage as a second pulse to said succeeding stage, in accordance with an instruction signal instructing transfer acknowledgement or inhibition, first storage means for storing said first pulse (Szczebak

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fig. 15: data around the end of 15c and data around the beginning of 15d), a second storage means reset in response to inhibition state of said instruction signal (Szczebak fig. 15: data around the end of 15c and data around the beginning of 15d), third storage means reset in response to an input of said first pulse and reset in response to an arbitrary applied third pulse input (Szczebak fig. 15d), and logic means for outputting a fourth pulse in response to a fact that said first storage means is storing said first pulse, said first pulse is not being applied to said first storage means, said second storage means is reset, said instruction signal is in acknowledged state, and said third storage means is reset (Szczebak fig. 15d), said first storage means being reset by an input of said fourth pulse (not in Szczebak), said second storage means storing said fourth pulse and generating said second pulse; and said adjustment unit generates, in response to a fact that said first storage means stores said first pulse and said first pulse is not being applied to said first storage means (inherent since if the storage means is storing the pulse, it is inherent that the pulse is no longer being applied to the storage means. The pulse was only being applied to the storage means when the pulse was in the process of being stored in the storage means but the pulse was not in the storage means), said adjustment unit generates said third pulse with a desired timing between data transfer of said asynchronous system and a clock of said synchronous system.

16. (dependent on claim 4) As per claim 5, the data transmission line according to claim 4, wherein said data holding unit includes an asynchronous holding circuit for holding data transmitted in said asynchronous system, and a synchronous holding circuit for holding data output from said synchronous system.

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17. (dependent on claim 4) As per claim 6, the data transmission line according to claim 5, wherein said asynchronous system includes a data driven type information processing unit, and said synchronous system includes a clock synchronous information processing unit.

18. As per claim 8, the data transmission line according to claim 7, wherein said transfer control unit includes, in order to transfer a first pulse applied from said preceding stage as a second pulse to said succeeding stage, in accordance with an instruction signal instructing transfer acknowledgement or inhibition, first storage means for storing said first pulse, a second storage means reset in response to inhibition state of said instruction signal, third storage means reset in response to an input of said first pulse and reset in response to an arbitrary applied third pulse input, and logic means for outputting a fourth pulse in response to a fact that said first storage means is storing said first pulse, said first pulse is not being applied to said first storage means, said second storage means is reset, said instruction signal is in acknowledged state, and said third storage means is reset, (discussed above up to here) **said first storage means being reset by an input of said fourth pulse** (not in Szczebak) said second storage means storing said fourth pulse and generating said second pulse; and said adjustment unit generates, in response to a fact that said first storage means stores said first pulse and said first pulse is not being applied to said first storage means (inherent since if the storage means is storing the pulse, it is inherent that the pulse is no longer being applied to the storage means. The pulse was only being applied to the storage means when the pulse was in the process of being stored in the storage means but the pulse was not in the storage means), said adjustment unit generates, in response to a fact that said first storage means stores said first pulse said third pulse with a desired timing between data transfer of said asynchronous system and a clock of said synchronous system.



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19. As per claim 9, the data transmission line according to claim 1, wherein said transfer control unit includes, in order to transfer a first pulse applied from said preceding stage as a second pulse to said succeeding stage, in accordance with an instruction signal instructing transfer acknowledgement or inhibition, first storage means for storing said first pulse, a second storage means reset in response to inhibition state of said instruction signal, third storage means reset in response to an input of said first pulse and reset in response to an arbitrary applied third pulse input, and logic means for outputting a fourth pulse in response to a fact that said first storage means is storing said first pulse, said first pulse is not being applied to said first storage means, said second storage means is reset, said instruction signal is in acknowledged state, and said third storage means is reset (up to here discussed above), said first storage means being reset by an input of said fourth pulse, (not in Szczebak) said second storage means storing said fourth pulse and generating said second pulse; and said adjustment unit generates, in response to a fact that said first storage means stores said first pulse and said first pulse is not being applied to said first storage means, said adjustment unit generates said third pulse with a desired timing between data transfer of said asynchronous system and a clock of said synchronous system.

### ***Conclusion***

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

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mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pankaj Kumar whose telephone number is (703) 305-0194. The examiner can normally be reached on Monday through Thursday after 8AM to after 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham can be reached on (703) 305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3800.

PK  
June 9, 2003

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600 6/9/03